DETAILED ACTION

Response to Amendment

1. Claims 85 and 86 have been amended as requested in the amendment filed on September 19, 2011. Following the amendment, claims 85 and 86 are pending in the instant application.

Claims 85 and 86 are under examination in the instant office action.

2. Applicant's arguments filed on September 19, 2011 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Objections

3. In view of claim amendments the objection of Claims 85 and 86 for containing periods within the claim, has been withdrawn.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. As currently amended, the rejection of Claims 85 and 86 under 35 U.S.C. 112, first paragraph, scope of enablement, stands for reasons of record in the previous Office action. While being fully enabled for the method comprising forming an incubation mixture in vitro, in the presence of physiological levels or 60 mg/ml of human serum albumin, does not provide enabling support for the method performed in in vivo.

On pages 5-7 of Remarks filed September 19, 2011, Applicant traverses the rejection on the following grounds. Applicant states that the specification provides a reasonable correlation between in vitro and in vivo systems. Applicant states:

"The exemplification at least at ¶[0075] and Table 4 of the pending specification provide in vitro support for the present invention. The exemplification at least at ¶ [0087] - [0088] and Table 7 of the pending specification provide in vivo support of the present invention in a murine model system. While the Patent Office makes the assertion that murine model systems are not adequate as a correlative model system for humans due to a lower level of serum, the Applicant submits that when the exemplification in the specification is taken as a whole, and not attacked individually as the Patent Office has done, the in vitro and in vivo exemplification provided by the specification provides one of ordinary skill in the art the ability to perform the claimed invention without undue experimentation" (Remarks, page 5).

Applicant further argues that the cited Schenk et al. reference is itself not fully enabled for the method (page 6) but, on the other hand, state that it is used as evidence of what was known in the art at the time of filing regarding immunizing human subjects and detecting serum antibody titers. The remainder of the arguments is not found persuasive to overcome the rejection. Applicant has made it clear on the record that the nature of the invention is drawn to immunological control of beta amyloid in vivo (see title and claims filed 7/28/2007). Thus, the breadth of the invention encompasses the method performed by actively immunizing a human patient with a beta amyloid peptide comprising SEQ ID NO: 3, wherein an incubation mixture is formed in vivo between said peptide and an antibody generated to SEQ ID NO:3 and the formation of an immune complex between beta-amyloid and the antibody which, upon a removing sample can be detected.

With respect to enabling support of the method claimed, the specification teaches a single species of monoclonal anti-Aβ antibody that binds to Aβ1-40 in an in vitro assay

comprising human serum albumin (HSA) at 60 mg/ml, which is a 500-fold molar excess over the antibody concentration (Table 3). There is no guidance within the specification for a specific antibody generated to SEQ ID NO: 3, as claimed. Nor is there any guidance as to how the method can be performed in vivo in the presence of physiological levels of human serum albumin. The only in vivo working example within the disclosure, teaches administration of the 5A11 antibody to mice and demonstrates in vivo binding to coadministered radiolabelled amyloid beta 1-40 peptide. This example is not predictive of success for a method comprising administering amyloid beta peptide and generating an endogenous antibody specific to the amyloid beta residues 9-25, as instantly claimed.

As stated above the Schenk et al. (1999) reference does not provide explicit guidance as to how to form in humans a complex specific to the central region of beta-amyloid (SEQ ID NO: 3). The Schenk reference teaches general methods comprising immunizing humans with beta amyloid fragments (including fragments 1-12 and 13-28 which span residues 9-25 of the instant claims) in order to generate an in vivo response, and then teaches general methods for the detection of the resultant antibody titers. Additionally, it is important to note that post-filing epitope mapping of the antibodies generated by the methods as taught by Schenk et al., reveal antibodies that only bind to the N-terminal of the peptide and not the central region as required by the instant claims (Lee et al., Ann Neurol, 58: 430-435, 2005). Therefore, there was no guidance in the art at the time of filing for an in vivo embodiment of the specific method of the claims. Since neither the instant disclosure, nor the art at the time of filing provide enabling

support for the method as claimed, then the Examiner maintains that a skilled artisan would have to perform further experimentation in order to successfully use the method commensurate in scope with what is claimed. For the method of the claims as performed in vivo, the Examiner maintains that the level of experimentation required goes beyond that which is considered routine in the art, and constitutes undue further experimentation in order to enable the invention commensurate in scope with what is claimed.

Therefore, the rejection of Claims 85 and 86 is maintained.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. As currently amended to require the specific formation of an incubation mixture comprising the components of step a) and an antibody generated to the central region of beta-amyloid SEQ ID NO: 3 in the presence of physiological human serum albumin or 60 mg/ml human albumin, the rejection of Claims 85 and under 35 U.S.C. 102(b) as being anticipated by Cordell et al., US Patent 5,187,153 (1993) is withdrawn.

Conclusion

8. No Claim is allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on T-F 5:45 to 3:30, TELEWORK-Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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